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AGO ltr dtd 29 Apr 1980

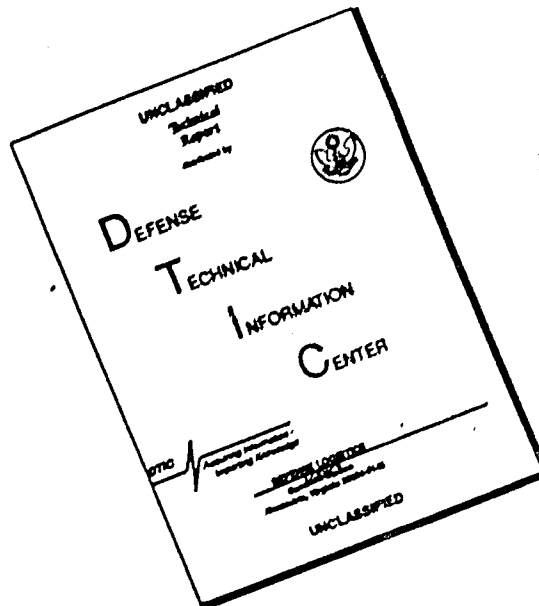
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AVBC-C (13 May 67) 2nd Ind Cpt Mills/cky/DBT-163  
SUBJECT: Operational Report - Lessons Learned (RCS - CSFOR - 65) for  
Quarterly Period Ending 30 April 1967

Headquarters, 18th Engineer Brigade, APO US Forces 96377 7 JUN 1967

TO: Commanding General, U.S. Army Engineer Command, Vietnam (Prov)  
ATTN: AVCC-P&O, APO US Forces 96491

1. This Headquarters has reviewed the Operational Report - Lessons Learned for the period ending 30 April submitted by the 35th Engineer Battalion and considers it an adequate description of unit activities and accomplishments.

2. Concur with the observations and comments of the battalion commander, as indorsed, with the additional comment,

Page 3, paragraph 5 - the program of providing U.S. Engineers to act as technical advisors to the Army of the Republic of Vietnam has been highly effective with both the ARVN and U.S. soldiers gaining a better understanding of each other. It is recommended that this concept be initiated whenever U.S. and ARVN operations complement or are in mutual support of each other.



C.M. DUKE  
Brigadier General, USA  
Commanding

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AVCC-P&O (13 May 67) 3d Ind CPT Hubbard/ccb/BH 404  
SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65) for Quarterly  
Period Ending 30 April 1967

HEADQUARTERS, UNITED STATES ARMY ENGINEER COMMAND  
VIETNAM (PROV), APO 96491 15 JUN 1967

TO: Commanding General, United States Army, Vietnam, ATTN: AVHGC-DH,  
APO 96307

1. The subject report, submitted by the 35th Engineer Battalion (Cbt), has been reviewed by this headquarters and is considered adequate.
2. The recommendations and comments made by the submitting and Indorsing commanders have been reviewed and this headquarters concurs with report, as Indorsed.

FOR THE COMMANDER:

  
RICHARD J. DUCOTE  
Colonel, CE  
Chief of Staff

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AVHGC-DST (13 May 67) 4th Ind  
SUBJECT: Operational Report-Lessons Learned for the Period Ending  
30 April 1967 (RCS CSFOR-65) (U)

HEADQUARTERS, UNITED STATES ARMY VIETNAM, APO San Francisco 96307 14 JUL 1967

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-OT,  
APO 96558


1. This headquarters has reviewed the Operational Report-Lessons Learned for the period ending 30 April 1967 from Headquarters, 35th Engineer Battalion (COMBAT), as indorsed.

2. Pertinent comments follow:

a. Reference item concerning US engineers serving as technical advisors to ARVN, page 3, paragraph 5 and paragraph 2, 2d Indorsement: Concur. Cooperation between ARVN and US military personnel is desirable at all levels of command.

b. Reference item concerning security and anti-mine techniques, page 7, section II, Part II: Items submitted in section II, part II are sound. Unit capabilities and time available for such operations varies. Anti-mine techniques should be emphasized in the planning of all operations. In many cases, however, availability of equipment and time will preclude high assurances against mining. This must be accepted and maximum use made of passive measures to reduce casualties and equipment damage.

FOR THE COMMANDER:

  
K. P. LAESSIG  
CPT, AGC  
Asst AG

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GPOP-DT(13 May 67)

5th Ind

SUBJECT: Operational Report-Lessons Learned for the Period Ending  
30 April 1967 (RCS CSFOR-65), HQ 35th Engr Bn (Cbt)

HQ, US ARMY, PACIFIC, APO San Francisco 96558 20 JUL 1967

TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D. C. 20310

This headquarters concurs in the basic report as indorsed.

FOR THE COMMANDER IN CHIEF:



H. SNYDER  
CPT, AGO  
Asst AG

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DEPARTMENT OF THE ARMY  
HEADQUARTERS 35TH ENGINEER BATTALION (COMBAT)  
APO San Francisco 96238

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AGH-BD-CO

13 May 1967

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65)  
for Quarterly Period Ending 30 April 1967

THRU: Commanding Officer  
45th Engineer Group (Construction)  
APO 96238

Commanding General  
18th Engineer Brigade  
ATTN: AVBC-C  
APO 96377

Commanding General  
U.S. Army Engineer Command, Vietnam  
ATTN: AVCC-PO  
APO 96491

Commanding General  
U.S. Army Vietnam  
ATTN: AVGC-DH  
APO 96307

Commander -in- Chief  
U.S. Army Pacific  
ATTN: GPOP-OT  
APO 96558

TO: Assistant Chief of Staff for Force Development  
Department of the Army (ACSFOR DA)  
Washington, D.C. 20310

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DEVELOPMENT  
ATTN: -FOR-OT-RD  
WASH. D.C. 20310

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### Section 1. Significant Organization Activities

1. During the report period, D Company of the 20th Engineer Battalion (C) was attached for all purposes on 23 February 1967. The unit was originally Company A of the 31st Engineer Battalion at Fort Bliss, Texas, then became Engineer Packet Number 1, and subsequently Company D of the 20th Engineer Battalion (C). This command received the unit to replace the organic D Company which was detached and further attached to the 20th Engineer Battalion, 937th Engineer Group on 29 November 1966.

2. The battalion's assigned missions during this period were as follows:

- a. Maintenance and upgrading of Highway QL-19 from the intersection of QL-1 west to the An Khe Pass.
- b. Maintenance and upgrading of Highway QL-1 from Phu Cat to Tam Quan.
- c. Operational support to the 1st Cavalry Division (Airmobile) in the Bong Son plains and the An Loa Valley areas of operation.
- d. Cha Rang Logistics Depot.
- e. Cha Rang Maintenance Complex.
- f. Qui Nhon - An Khe Pipeline.
- g. Self-Help Cantonment.

3. A daily minesweep of QL-1 from LZ Hammond to Bong Son has been conducted by assigned units throughout the report period. On-call minesweep missions along QL-1 from Bong Son to Tam Quan have been performed by Company B. Significant data on enemy employment of mines and booby traps continues to be generated and disseminated through intelligence channels.

4. During the report period reconnaissance elements from the Intelligence Section, battalion headquarters, performed the following deliberate reconnaissances:

- a. Route QL-19 from intersection with QL-1 west to the An Khe Pass during the period 19 February - 21 March 1967. No security required.
- b. Route TL3A southwest of Bong Son to LZ Fony during the period 6 - 13 March 1967. No security required.
- c. Route QL-1 from intersection with Route QL-19 north to Bong Son during the period 15 March - 15 April 1967. No security required.

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d. Route QL-1 north of Bong Son to Tam Quan during the period 15 March - 15 April 1967. Security provided by 1st Squadron, 9th Cavalry Regiment, 1st Cavalry Division (Airmobile).

e. Route TL3A south from intersection with QL-19 north to CIDG camp at Vinh Thanh. Organic security supplemented by Special Forces personnel from CIDG camp.

f. Deliberate reconnaissances of the following airfields:

- (1) LZ Litts (BR908704)
- (2) La Bonte, Long (BR800829)
- (3) Hammond (BR880553)
- (4) Bong Son (BR846946)
- (5) Crystal (BR895659)

5. On or about 11 March, elements of the 40th ARVN Regiment assumed security responsibilities along QL-1 from BR933773 to Bong Son. A concept of providing engineer soldiers as technical advisors to ARVN security elements was developed and initiated with the cooperation and approval of the 45th Engineer Group (Construction), Commanding Officer, 40th ARVN Regiment, and American advisors working with the regiment. A full report to include observations and conclusions of this undertaking was submitted to 45th Engineer Group on 11 April 1967. The report was subsequently forwarded to the Commanding General, 18th Engineer Brigade for further consideration on 12 April 1967. The Engineer Tech Team program has continued throughout the report period.

6. In support of Revolutionary Development activities and Civic Action programs, elements of the battalion accomplished the following projects:

a. Construction of a 65 foot, Class 45 bridge on Route TL3A southwest of Bong Son at coordinates BR829905, by elements of Company B.

b. Construction of an 800 meter dry weather road from LZ Hammond to the re-populated hamlet of Hoa Dai to provide a route access to the village for pedestrians and small vehicles.

7. Company A: Company A continues with its mission of upgrading QL-1 before arrival of the next monsoon season. From 1 February through 10 April, Company A was tasked with upgrading QL-1 from BR886586 north to the Song Tai Giang River just south of Bong Son, a distance of 26.75 miles. The work consisted of emplacing 2500 feet of 24" to 60" diameter sized culvert, constructing 28 bypasses, widening the road to a MACV standard 32 foot width, raising

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4.6 miles an additional three feet to combat the monsoon flood stage, and applying dust palliative to completed sections of the road. On 11 April road responsibilities were realigned and Company A assumed road upgrading tasks between Phu Cat (BR926426) north to Bridge 1-58 (BR904685), a distance of 16.80 miles. In addition to road upgrading, Company A performed a daily minesweep of QL-1 from Crystal to Uplift.

8. Company B: Company B continued to perform operational support for the 1st Cavalry Division (Airmobile) in the Bong Son plains area. Missions were varied and included minesweeps of QL-1 north of Bong Son to Tam Quan on-call, construction of a 35 mile tank trail around the perimeter of the Bong Son plain to improve tank accessibility, and identification and destruction of booty traps encountered during operations in and around the Bong Son plains. Company B also renovated English Airfield during the period 6 - 18 February. Work included removal of damaged MSA1 matting, reconditioning the subgrade to include an asphalt seal coat, and emplacement of new MSA1 matting. A minimum of 1500 feet of the runway was kept open at all times during construction to allow C-7A traffic to continue to operate off of the airfield. On 20 March Company B began construction of a combination 1200 foot causeway and 220 foot M4T6 floating bridge to provide a second access route across the Song Lai Giang river, thereby relieving pressure from the one remaining permanent bridge. The M4T6 float bridge was emplaced on 24 April. Company B also performs a daily minesweep north of QL-1 from Bong Son to Bridge 1-67 (BR916838).

9. Company C: Company C was located at Cha Rang at the beginning of the report period, continuing work on those projects of interest to Qui Nhon Support Command, maintenance and upgrading of QL-19 west to the An Khe Pass, and continuance of the self-help program in its area of responsibility. Work on the Cha Rang Maintenance Complex included placement of 40,000 square feet of concrete flooring, erection of 2 steel prefabricated buildings 70'X140', and installation of numerous culverts as part of the drainage improvement program for the maintenance area. Work on the Logistics Depot Expansion Project continued with the clearing of 251,000 square yards of scrub land. A total of 500,000 cubic yards of earth were redistributed to meet design profiles for the area. In addition, 3,000 linear feet of 24", 36", and 45" diameter culverts were installed as part of the project. Maintenance and upgrading the 37 miles of QL-19 assigned continued during the period as well. Work consisted of pothole repair and scarifying, grading, and applying dust palliative on the worst sections of the road. Five bypasses utilizing 900' of 36" culvert and 12,000 cubic yards of fill were constructed in order to pass Class 78 traffic. Work also continued during the period on the Qui Nhon - An Khe Pipeline with the construction of pump station sheds, 20'X30' tropicalized administrative buildings, and 20'X80' tropicalized billets. This project was completed and turned over to the Qui Nhon Sub Area Command Area Engineers on 20 April. Supervision and technical assistance continued on various self-help projects at Cha Rang. On 10 April, Company C, less one platoon, was relocated at LZ Uplift (BR926755). They assumed the mission of maintaining and upgrading QL-1 from Bridge 1-58 to

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the Song Lai Giang River, a distance of 20.25 miles. The 10 mile strip of Route TL3A from Bong Son to LZ Pony was also assigned to Company C for maintenance and upgrading. The one platoon left at Cha Rang was placed under the operational control of the incoming 589th Engineer Battalion (Construction) on 28 April. The platoon provided assistance to the 589th Engineer Battalion's Advance Party and orientation prior to the new battalion's assumption of Company C projects in the Cha Rang area. Company C, upon arriving at Uplift, was also assigned a daily minesweep mission along QL-1 from Uplift north to Bridge 1-67 (BR916838).

10. Company D: Company D, 20th Engineer Battalion was attached for all purposes 23 February. Their primary mission has been the erection of semi-permanent bridging along QL-1 from Phu Cat to Bong Son. On 28 February, Company D began their first bridge. In just over two months of bridge construction, Company D has completed 10 semi-permanent bridges. Construction consists of pile revetment abutments, pile bents, and wood or steel stringers, depending on bridge span and location. In addition, Company D is responsible for the routine maintenance of Hammond Airfield which includes penprime patching and maintenance of the existing drainage systems. Company D also conducts a daily minesweep of QL-1 from Hammond north to Crystal.

### Section 2, Part I. Observations (Lessons Learned)

#### OPERATIONS

##### ITEM: Mineclearing Operations in Fill Pits

DISCUSSION: Numerous borrow or fill pits have been developed by assigned units in conjunction with work on QL-1. Most of them are used on a daily basis. It is a common practice of the VC elements working in the area to plant mines in these fill pits at a depth where detection is made impossible. Subsequent scoop loader operations dig down to these mines and cause detonation.

OBSERVATION: A dozer has been incorporated into fill pit operations to strip fresh soil and stockpile it so the scooploader can dig from the loose soil stockpiled. A minesweep detail observes the dozers' progress over a strip of land and once the dozer has cut approximately 3 feet of soil, the area is swept again. Often after the first 3 or 4 feet of soil has been removed, the mine, if present, is detectable. If the dozer inadvertently hits the mine, less damage and chance of operator injury occurs than if the scoop loader was hit. Also, special security arrangements have been attempted with ARVN elements in the area in order to lay ambushes in and around the fill pits to discourage night activity by the VC.

##### ITEM: Minesweeps in Hostile Areas

DISCUSSION: Occasionally, a requirement exists to provide minesweep teams for a specific road opening exercise. Security for the minesweep team is usually

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quite adequate as such sweeps are made through extremely hostile areas. It has been found that the VC have pre-chambered sections of the road, leaving the chambers empty and placing a board or other non-metallic substances over the top and backfilling to road level to disguise its existence. The minesweep team often passes over these empty chambers on their sweep up the road. After the convoy has passed, the VC return, quickly place a mine device in the chamber and backfill again. Several vehicles returning as little as 3 hours later have been destroyed in this manner.

**OBSERVATION:** Sweeping the road on the return trip has proven most essential to deter mining after a convoy or task force has passed. In addition, the placing of security elements along the road or combinations of strong points and patrolling also has eliminated this type of mining incident. Helicopter observation of the road at low level is also a deterrent against such activity.

### **ITEM:** Minesweeping Techniques

**DISCUSSION:** Approximately 1/3 of all the mines emplaced by hostile forces on QL-1 have been command detonated. This of course, allows the enemy to pick his target for destruction and usually results in a greater loss in lives and equipment.

**OBSERVATION:** In conducting minesweeps along QL-1 it has been established that the enemy will camouflage the wires leading to a command detonated mine usually by placing it underground or under water for a short stretch away from the road. Some of the wire sizes used are also extremely small and covered with OD paint or fabric to prevent easy detection. Mine sweep teams have detected these wires however, by employing two men on each side of the road. This often means the men are walking in rice paddy water but the wires are more discernable because the enemy has not taken the time to conceal them at that distance from the road.

### **ITEM:** Bridge Treadway

**DISCUSSION:** The standard treadway designs on timber bridges has proven unsatisfactory in that vehicles often straddle the treadway, thereby damaging the decking. In addition, the treadway is often damaged by tracked vehicles driving on the edges of the tread.

**OBSERVATION:** Treadway is now being placed the full width on all timber trestle and Bailey bridging with a 2" gap between each board placed to allow self cleaning action. This has proven to be worth the effort and additional material consumed as tread maintenance has been reduced significantly, releasing manpower and equipment for other jobs.

## **Section 2, Part II. Recommendations**

Operations:

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(1) That fill pits subject to possible mining be swept before and during operations in coordination with the dozer. That areas be re-swept after the first three feet have been excavated.

(2) That sufficient security and helicopter support be provided during "one time" or occasional road opening exercises to prevent enemy mining activities after the convoy element has passed. That minesweep teams conduct mine clearing operations on return trip as well.

(3) That two men be employed approximately 6 to 8 meters from road shoulders to walk along paddies on both sides of the road in areas where command detonated mines are consistently placed, to detect detonation wires.

(4) That the standard treadway design be replaced with a treadway spanning the entire bridge width with a 2" spacing between boards for self cleaning purposes.

*Carrell A. Clem Jr.*

CARRELL A. CLEM, JR.

LTC, CE

Commanding

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EGD-3 (13 May 67) 1st Ind SGM Winter/amb/QNL 131  
SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65) for Quarterly  
Period Ending 30 April 1967

HEADQUARTERS, 45th Engineer Group (Construction), APO 96238, 19 May 1967

THRU: Commanding General, 18th Engineer Brigade, ATTN: AVBC-C, APO 96377  
Commanding General, USA Engineer Command Vietnam (Prov), ATTN:  
AVCC-P&O, APO 96491  
Commanding General, United States Army, Vietnam, ATTN: AVHGC-DH,  
APO 96307  
Commander in Chief, United States Army, Pacific, ATTN: GROD-OT,  
APO 96558

TO: Assistant Chief of Staff for Force Development, Department of the  
Army (ACSFOR DA), Washington, D. C. 20310

1. Operational Report-Lessons Learned of the 35th Engineer Battalion  
(Combat) for the Quarterly Period ending 30 April 1967 is forwarded.
2. Concur with observations.



K. T. SAWYER  
Colonel, Corps of Engineers  
Commanding

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